LOUISVILLE MEDICAL NEWS.

"NEC TENUI PENNA."

Vol. VIII. LOUISVILLE, SEPTEMBER 6, 1879. No. 10.

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EDITORS.

DOCTORS' DAY.

Whatever may be the state of the profession elsewhere, the doctors have the day in Kentucky, and ordinary folks must tip their hats to them. If upon any of the perilous fields trod by our gaudy militia haply some of the severely-worked medical staff should show conspicuous bravery, there will be no trouble about his medal at Frankfort, as there was the other day in England, when the Irish surgeon, who had fairly won his laurels in Zululand, was prevented for a while in wearing them simply because he was a doctor. Doctors are at the top of the pot in Kentucky. On the 2d of this month Dr. L. P. Blackburn was inaugurated at Frankfort as Governor of the State, and (D. V.) will hold the office for the next four years. We give the following sketch of Dr. Blackburn from the Courier-Journal:

Dr. Luke P. Blackburn, inaugurated Governor of Kentucky on September 2d, was born June 16, 1816, in Woodford County, Ky., his father being Edward M. Blackburn, a lawyer by education and a large farmer and stock-breeder in the state.

Dr. Blackburn graduated in medicine at Transylvania University, and began the practice of his profession at Lexington, and married Miss Ella Guest Boswell, daughter of Dr. Jos. Boswell, of that place. In 1835 he devoted himself assiduously to the care of the sick during the cholera epidemic at Lexington, and showed the same self-sacrificing devotion to suffering humanity which distinguished him in after life, receiving no pecuniary reward therefor. He then moved to Versailles and engaged in a lucrative practice. In 1843 he was elected to the legislature, and in 1846 he removed to Natchez, Miss., where he acquired wealth and large influence. In 1848 yellow fever appeared at New Orleans, and in his capacity of health officer at Natchez he established an effective quarantine. During that period he established, at his own expense, the first marine hospital for the benefit of the poor and sick river-men, and this enterprise led to the passage of a bill by Congress establishing a marine hospital at Natchez, thus inaugurating the great and beneficent marine-hospital system of the country. Dr. Blackburn was appointed surgeon of the new hospital, and held the position with distinguished honor for some years. In 1854 he again saved Natchez from yellow fever by establishing a rigid quarantine, and subsequently through his personal efforts succeeded in having the present quarantine established below New Orleans. In 1855 Dr. Blackburn's wife died; and in 1857, while traveling in Europe, he met Miss Julia M. Churchill, of Kentucky, to whom he was married in that year. Upon his return to the United States he located at New Orleans and built up a large practice.

Upon the breaking out of the civil war he was attached as surgeon to the personal staff of General Sterling Price, and the legislature of Mississippi put $50,000 into his hands to be used for the benefit of the suffering soldiers of the state. Governor Pettis then commissioned him to go to the borders to superintend the furnishing of supplies by blockade-runners, and he went to Canada to perform the duties of his office. In 1864, at the request of the Governor-general of Canada, he went to the Bermuda Islands to look after the suffering citizens and sailors. His services there were recognized in the most flattering manner by the Canadian authorities and by the British Admiralty Court.

In 1867 Dr. Blackburn returned to the United States and engaged in the business of planting in Arkansas, and in 1873 he returned to Kentucky, where he has since resided. In 1875, when Memphis was severely afflicted with yellow fever, he promptly repaired thither and remained actively engaged with the sick during the whole epidemic. In 1877 he performed the same humane mission at Fernandina, Florida. Last year, when the yellow fever was raging at Hickman, Dr. Blackburn again went to the front, there and elsewhere devoting himself as usual to the cause of humanity. His valuable and

unselfish services were heartily appreciated by his fellow-citizens, and at the Democratic Convention at Louisville in May, 1879, he received the nomination for Governor by acclamation, and was elected at the August election by a majority of 43,917.

Dr. Blackburn, though in several matters an "old-time" physician, in a number of others is intensely modern. He is a positive believer in the germ-theory of disease, and his advocacy of this theory, we believe, far antedates any of its other present backers. He is, of course, a believer in the portability of yellow fever, and is a stern advocate of quarantine, both seaboard and inland.

Dr. Blackburn's writings in medicine have chiefly been of a controversial character. The most notable were his discussions with Prof. T. S. Bell on the causes of Asiatic Cholera and of Yellow Fever.

SPECIAL attention is asked to our Formulary in this number.

Correspondence.

LETTER FROM CORK.

My Dear News:

Yesterday the British Medical Association adjourned to meet next August in Cambridge. The meeting was a pleasant one socially and a successful one scientifically, and too much praise can not be given to the public officials and private citizens of Cork for their delightful and splendid hospitality. To Drs. McNaughton Jones, Atkins, and O'Connor the Association and its guests are indebted for the perfect arrangement of every thing connected with the meeting, which entirely prevented confusion and made all its complicated machinery move smoothly. One heard the same complaints from members that one hears at the American Association. Some complained that there were so many breakfasts, luncheons, dinners, garden-parties, at-homes, receptions, and the like that no time was left for sober, scientific work. Others objected to the length of the papers read, upon the ground that there being so many of them it was impossible to discuss them. It was urged that their authors should be required to present to the meeting only an abstract of the papers, and that this would be discussed, and in that way the views of the various members would be brought out, the full paper to be given to the publication committee. This suggestion is excellent, but I would add this amendment: "And that the publication committee be required to destroy the full paper, as after we have read the kernel we have no desire to examine the hull." Life is too short for busy doctors to be reading "exhaustive" reports and essays, as they are called; these being commonly composed of compilations from books we all have, or are the tedious details of laboratory experiments, or else are verbose theories that are not worth the ink or wind that they are conveyed to us in.

As to the social-entertainment question, my experience is that the complaints upon this score come chiefly from members who can not enjoy these things, and, toward the last of a meeting, from gentlemen who have enjoyed them too much. Of course our medical meetings on both sides of the sea might be bettered, but as they are they are delightful and do much good. They give doctors who otherwise would never leave home an excuse and a temptation to take a recreation, and no man ever travels without learning something, and every one is better for a yearly rest from labor. These meetings congregate men who otherwise would never meet, and they allow an exchange of views and a measuring of intellects otherwise impossible; these, like hard stones, are by attrition rounded, smoothed, polished, and brightened.

Of the many distinguished men from various parts of the world, Sayre was by far the greatest lion. His lectures and demonstrations of the plaster dressing were witnessed by all who could crowd into the rooms where they were held. As usual, he produced marvelous results with his simple and wonderful dressing, and, as usual, these results were received with rapturous applause. In bringing this dressing right to the doors of British doctors, Dr. Sayre has accomplished a beneficent and philanthropic work. Had he remained at home and merely written books and magazine-articles it would have been at least a quarter of a century before the plaster jacket would have come into use in this country. Sayre is warmhearted and generous, but he is more of a bear than a humming-bird, and some of the surgeons on this side of the water think he is rather too rough on those who differ from him or who have not gotten quite as good results as he has in the treatment of spinal diseases. But it should be remembered that he is a

minister of the great corporal religion, medicine; and when he finds that through the ignorance, prejudice, or perverseness of men of note human backs are permanently bent and human heads are bowed beyond remedy, then he has a right to paw and claw the delinquents; in fact it is his duty to do so. I am glad to say that his patients, or their parents, show that they consider the laborer worthy of his hire; and while our great countryman came over to bring knowledge to his professional brethren and to seek recreation, he does n't turn a closed pocket or the back of his hand to the guineas, and he takes in a lot of them; and he deserves them.

In my last letter, I think, I mentioned Dr. Savory's address in surgery, and in a private note to you I advised you to publish the address entire. I hope you did not do so; for while it seemed perfect as it fell from his lips, and captivated all who heard it, from the oldest to the youngest, on reading it over coolly, twenty-four hours after, I found that it owed much of its effect to the winsome oratory of its handsome, graceful, scholarly, and eloquent author. I have never listened to a scientific address which created such a furore. The great hall was crowded, and bursts of applause and cheers and peals of laughter constantly interrupted the speaker. In reading the address it impresses me as exceedingly verbose. Its author decries Listerism, and yet uses carbolic acid. He believes in the imperative necessity of drainage, and yet calls drainage-tubes setons. He urges the old-fashioned poultice and water dressing and frequent examination of wounds, and has nothing to say of meddlesome surgery. But the results of operations at St. Bartholomew's which he gave, and which were done without Lister's spray, are wonderfully good; and his just taunt to Lister to come on and show to the profession the results in his hospital must bring that genie of the mephitic cloud to come on with his figures. Savory says, in effect, to Lister what the wicked players of poker sometimes say, "Put up or shut up."

The dermatological section was presided over by McCall Anderson, of Glasgow, a square-headed Scotchman with no bigot nonsense about him. Anderson is an "all-around man,"—making a specialty, as the great Wilson says, "of the skin and all that it contains." I gave you this definition of his in a former letter, but I want to rub it in, and so I repeat it. It is powerful good, and accords exactly with my ideas.

Hodgen and Byford made a fine impression on the Association, and their remarks in the sections of Surgery and Obstetrics were spoken of in the highest terms. I inclose you some extracts of the proceedings to use or not as you choose.

A New Corpuscle in the Blood was the startling title of a lecture by Dr. Norris. He claims to have discovered "a biconcave corpuscle of a higher refractive index than the red or the white," and says that "this corpuscle is the essential factor in the formation of fibrin." He showed photographs of the new corpuscle and descanted at length upon its tremendous bearing. No doubt we shall soon have some lovely theories founded on this biconcave curiosity, and the chances are that at the next meeting of the British Association some other investigator will rise up and squash this same corpuscle, and demonstrate the total impossibility of its existence.

A curious case of necrosis was exhibited by Dr. Hayes, of Tralee. He brought before the surgical section a woman who carried two thirds of her calvarium in her hand. Its place over the brain was supplied by an immense dense cicatrix, without any bone beneath. The woman, in a drunken fit, fell into the fire and cooked her head. The scalp and skull sloughed, the wound healed, and subsequently, while on a spree, she fell out of a loft upon her head, but was not particularly hurt. What can Providence be preserving this woman for when people are so plenty?

I forgot to mention, while speaking of the dermatological section, that in the discussion of lupus it transpired that Anderson, Morris, Squire, Hutchinson, Walter Smith, Stowes, and Thier all considered this disease a form of scrofula. This doctrine I have taught in the University. After a while they will all come to recognize psoriasis and ichthyosis also as scrofula. When dermatologists get to studying and treating diseases with reference to their cause, then the science will advance rapidly in simplicity and usefulness. There is little to hope in this direction from the young specialist who, like the parasites of this membrane, never goes deeper than the three layers of this wonderful corporal envelope. It is to the all-around man, who sees the skin as a part of a whole, which is nourished and diseased in the same way that other portions of the body are, that the profession must look for practical instruction.

L. P. YANDELL.

CORK, August 9, 1879.

ELECTRICITY VS. QUARANTINE.

To the Editors of the Louisville Medical News:

Inasmuch as the yellow fever is the all-absorbing topic of the day, and as theories are following each other in rapid succession apparently only to be exploded—which go to show the almost entire want of an accurate knowledge of said disease further than that it is a fever, and that it assumes an epidemic form, thereby spreading death and devastation in its course. The wisest of our profession have advanced theory after theory concerning the cause and treatment, which, to say the least, are utterly unsatisfactory, and show to the world the humiliating fact that the science of medicine has found yet another disease which has thus far baffled its researches.

Believing that the only manner of obtaining a true knowledge of disease is by experimenting, and hoping to direct the attention of those who have the opportunity to experiment with the above-mentioned agent, I submit this extemporaneous article, which I hope needs no apology.

Taking the germ theory to be the correct one, and that there is a state of incubation or hatching, after having been received into the human system, before development into fever, my idea is to make the attack during that state, and my weapon is electricity; for it is well settled that electricity is antagonistic to germ-life, as has been repeatedly illustrated and proved by actual experiment. Hence, then, why should it not be a conqueror of yellow fever, by destroying the poison in its state of germination? My opinion is that by subjecting persons who are leaving infected districts or localities, with the germs of said fever in the system, for a certain period of time to severe electric shocks, would effectually destroy said germs and thereby prevent their development into such fever. So likewise clothing, etc. might in like manner and with like effect be subjected to electric spray, thereby avoiding quarantines, the great inconveniencers of travel and destroyers of commerce. Should this theory prove to be efficient, then with equal certainty and efficiency could the disease be circumscribed and checkmated by subjecting members of families, and even communities, wherein the fever should make its appearance, to systematic and well-timed applications of electricity, thereby destroying the germ as often as deposited, as well as binding and fettering this terrible disease.

Moreover, the same *régime* might also be successfully applied to the atmosphere of a yellow-fever afflicted city, and the same be purified by means thereof, rather than rely upon the more tardy sanitary measures and disinfectants.

This is written not from any knowledge obtained from actual practice or experiments by the writer, nor from his knowledge of the results of the practice or the experiments of others. So it will be readily recognized as a theory put forth merely as such, subject alike to criticism and the fate of so many theories equally plausible. Yet your correspondent is desirious that the same should not be considered either speculative or visionary till after actual experiment and thorough test.

J. W. ADAMS.

BENTON, ARK., August 20, 1879.

[Respectfully referred to National Board of Health.—EDS. NEWS.]

Reviews.

The Yellow-fever Germ on Coast and Inland: A Discussion on Ship and Railroad Quarantine before the Medical Association of Georgia, Rome, April 18, 1879. By HENRY FRAZER CAMPBELL, M. D., Augusta, Ga., chairman of Committee on Endemic, Epidemic, and Contagious Diseases, in the Board of Health of the State of Georgia.

Before entering upon an examination of this paper I beg leave to express my gratification that Dr. Henry Frazer Campbell, of Georgia, has favored us with an exposition of the germ-theory as the producing cause of yellow fever on coast and inland. Among the cultivators of medical science he has deservedly won an honorable distinction, and from my knowledge of his high abilities I feel very sure that all that can be truthfully said in behalf of the germ-theory for yellow fever will be said by him in a philosophic spirit. I should have been pleased to see the doctrine more cogently presented than Dr. Campbell presents it in this paper; but I feel that the want of that cogency is due more to the inherent weakness of the teaching than the inability of the teacher. In no one of the brochures upon this subject have I found any thing akin to the open, fair-handed dealing that characterizes the labors of Dr. Campbell.

I earnestly wish that a starting-point could be found for this germ-theory; that somewhere within the realms of sober reason, of

sound common sense, an utterance could be made toward which we could gather as to an assured truth. No one has ever yet seen a germ of any kind that we can assuredly recognize as having any thing more to do with the production of yellow fever than with any other of the diversified operations of nature. We know nothing of its form, nothing of its origin, nothing of its mode of operation. We absolutely know nothing of it except that which is asserted, and what right has any one to announce as a truth that which is simply asserted? And when so little is known about the germ of yellow fever, why should there be such an outcry of profession? There is not a science known to men that has been built of this kind of material. But I call attention to the views of Dr. Campbell.

1. Dr. Campbell very strongly states his belief "that yellow fever is not personally contagious." Upon that point he is clear, definite, and precise.

2. Dr. Campbell says: "The origin and propagation of yellow fever is dependent on what may be recognized by its effects as a specific germ—at present hypothetical, but not more so than other forms of atmospheric poisons, malaria, etc."

3. "This germ is an exotic wherever it may be found in any of the localities of this country—probably domesticated in certain localities, as New Orleans, so as to have become feebly naturalized or *quasi* indigenous at times."

5. "As without the specific virus we could never originate a case of small-pox, so do I believe, without the specific germ, no condition, however unsanitary—even did we accumulate filth, piling it up from the pavement to the sills of the second-story windows—would enable us to manufacture a single case of genuine yellow fever."

Dr. Campbell's sixth proposition is in these words: "Though I regard the germ as indispensable to the origination of the disease, I would by no means be understood as abating in the slightest degree the imperative necessity for the strictest purity otherwise of air and water. I can conceive of such purity in the surroundings of a locality into which these germs might be introduced as would fail in giving them the support necessary to their propagation; and it is true that propagation is less active and their decline more rapid in localities where sanitation has been untiringly enforced than in neglected and unwholesome places."

We make one more quotation from Dr. Campbell before we proceed to examine the footstalks upon which he places the germ-theory. He says: "No single induction of modern and advanced science has been more established, or more constantly and effectually acted on, than that which affirms the existence of morbific atmospheric germs. The entire complement of antiseptic surgery, with its reliable results and brilliant achievements, depends upon this rational assumption, and upon the devising of methods for preventing germ-ingress and for securing germ-destruction. *From this direction it is clear the 'germ-theory' of yellow fever receives a remarkable corroboration.*"

The italics of this quotation are my own. Now, where are the "reliable results and brilliant achievements of surgery" that give any species of corroboration to the yellow-fever germ-theory? I confess that I have read accounts of surgical operations with a great deal of care and attention without finding any of this corroboration. I think that surgery has been quite as marked in its brilliant results without antiseptic measures as with them, and it is a great assumption to claim that carbolic acid has this antiseptic power. But admitting its antiseptic powers, what aid do they furnish us for the assumption that there is any such a thing as "a yellow-fever germ." That is a chimerical dream, resting entirely upon assertion, and without the shadow of reason or logic for its support.

The subject of "the germ-theory" is more ably handled by Dr. Henry Frazer Campbell than I have seen it handled by any one in America or Europe. I have devoted much time to its study, and after all the time spent upon it I have returned from the labor with my hands as empty as they were when I first went to its fountains. The reasoning on it is labored; it is often adroitly and skillfully handled; but it is reasoning by analogy, certainly one of the most unsafe methods at reaching logical and truthful conclusions. Take, for instance, one of the "hypothetical" entities—malaria—referred to by Dr. Campbell. I can take that bad air and run a long list of analogies between it and carbonic-acid gas. Does this array of analogies prove that they are one and the same thing? It is known that they are not; yet I can make more specific analogies between malaria and carbonic-acid gas than Dr. Campbell can make for any thing with his yellow-fever germ. Edmund Burke, one of the profoundest thinkers that has lived, says: "Parallels of this sort rather furnish simili-

tudes to illustrate or adorn than supply analogies from whence to reason. The objects which are attempted to be forced into an analogy are not found in the same class of existence. Individuals are physical beings; commonwealths are not physical but moral essences. . . . Analogy is a resemblance in relation borne to certain other things. A fanciful resemblance is very likely to be mistaken for a real one, and the real resemblance we easily try to push too far. An analogy on one point raises no presumption of an analogy on another point when the factors are essentially unlike." I confess to a very wholesome fear when I attempt—which I rarely do—analogical reasoning.

Nothing is known of that chimera called "the yellow-fever germ." No one ever saw it. No one can speak of it philosophically, because philosophy does not recognize its existence. It is an entire alien, as a matter of course, to the entire domain and the wide-sweeping area of science, because that means what is known. No one knows a solitary law for the birth of a yellow-fever germ, its mode of life, its method of propagation, its actions in the production of disease. Dr. Campbell thinks it is generally an exotic; that it sometimes hybernates, and may become indigenous in some localities. Could knowledge be more indefinite upon any subject? Some of the cases recorded by Dr. Campbell remind one, in the action of the assumed germs, very much of the thimble-rigger—now you see the "little joker," and now you do not see him. Take for example, the case detailed by Dr. Campbell upon the seventeenth page of his pamphlet—the case of a family which fled from Augusta when yellow fever was endemic at Augusta. This family "fled to the sand hills and other safe vicinities." Mrs. C. S. was seized upon her arrival with symptoms that soon developed yellow fever. Her daughter, eight years of age, slept in the same bed with her mother "throughout all the stages of access, culmination, and decline, but the child enjoyed unexceptionable good health." Where were "the germs" in this case? The family returned home after frosts appeared at Augusta.

But I have said enough for an opening. I must be temperate in the amount of space I use. In my next I shall thoroughly examine some of the points made by Prof. Campbell.

T. S. BELL, M. D.

PRELIMINARY lectures begin this week.

The Pharmacopœia of the British Hospital for Diseases of the Skin, London. Edited by BALMANNO SQUIRE, M. B., Senior Surgeon to the Hospital. London: J. & A. Churchill. 1879.

This is a valuable book of eighty pages. It gives a collection of the various preparations used in the great British Hospital for Skin Diseases. To believe that the endeavor of the editor "to attain a simplicity in the formulæ and a conciseness in the directions" has been accomplished, one should see the work to appreciate. It is well arranged, the classification is admirable, and the index a very full one. To the practitioner in skin-disease it will be a desirable companion.

Formulary.

Our attention has been called to a mistake made in one of the prescriptions copied into this journal two weeks ago from Goodell's Lessons in Gynecology. Instead of a dram of the acid solution of arsenic (liq. arsenici chloridi) an ounce was given. We give below the formula corrected, and we would be obliged to our readers to make this correction in their journals:

℞ Hydrarg. chloridi corrosivi ... gr. i–ij;
Liq. arsenici chloridi ..... fl. ʒ j;
Tinct. ferri chloridi ..... } ää fl. ʒ iv;
Acid. hydrochlorici dil ..... }
Syrupi ..... fl. ʒ iij;
Aquam, ad ..... fl. ʒ vj. M.

Sig. One dessertspoonful in a wineglassful of water after each meal.

Miscellany.

RELIGIOUS FAITH AMONG MEDICAL MEN. The London Lancet, in an article on The Spiritual in Man, suggested by a confession of his faith in Christ left for publication by Dr. Tilbury Fox, says:

The time has come to speak out boldly on this subject, and we are persuaded the good sense and self-respect of the profession will approve the protest against that spirit of restless antagonism to the claims of religion which has unhappily obtained fuller expression in a small section of our ranks during the last few years, and which, if not repudiated, must be expected to increase. The position we assume in reference to this matter is one which may easily be defined. We are not the apologists of

any special creed, but we say faith is a rational and natural form of mental activity. The religious instinct is an essential part of man's nature. There is a distinctly spiritual side to his character. The existence of hopes, fears, and aspirations—call them susceptibilities only, if one prefers the term—is in itself evidence that there are spiritual surroundings and subjects of thought which call these forms of energy into existence. It is scientifically possible that not one of the forms of belief extant may be true to fact, and yet the existence of faith proves conclusively that there is subject for faith.

It is not philosophic to affirm that nothing exists or can exist beyond the scope of our observation. It is not rational to believe that man has been imbued, as we find him imbued, with a longing for personal immortality, without the existence of a future state which has called forth and will hereafter justify his aspirations. Nor is it scientific in a practical sense to consider the intellectual development of human nature complete without the manifestation of a religious element in the character. He is not of sound mind who has no cognizance of the spiritual part of his own nature. We make this assertion without hesitation and in full view of the puerile remark it may provoke. We deny that faith is a pure figment of the imagination, and that the religious emotions are simply visceral in their origin and nature. We take our stand upon the broad basis of fact, and find faith, religion, and a spiritual phase of the human intellect falling within the compass of the mind. Moreover, we find the moral character largely influenced by the motives and impulses that spring from without. In the face of these evidences we can not but recognize the value and importance of earnest views of life and the future.

It is therefore with sincere satisfaction we observe the effect which has been produced by the posthumous confession of a simple Christian faith promulgated in these columns at the request of the late Tilbury Fox. We venture to hope it is only the formal expression of belief which has constituted the notable feature of this case. The faith exceptionally expressed is, we are glad to believe, widely cherished. There would seem to have been a feeling prevalent in the medical profession of late years that men of our cloth should avoid the avowal of their personal sentiments on religious subjects. We agree that the physician should not usurp the functions of the minister of religion, but he is forbidden by the spirit of manliness to take refuge in the opposite extreme of moral cowardice with a pretense of indifference. Men engaged in the ministry of medicine in the chamber of sickness and by the bed of the dying must needs have solemn experiences, and there is doubtless a tendency to arm the sensitive nature and conscience against the pathetic appeal of scenes in which we are professionally engaged. Against this leaning toward an assumed and artificial state of apathy it is necessary to guard. The dying confession of our friend and colleague may help some to take up a better and a healthier position in regard to subjects of the highest and most enduring concern.

The use made of the incident to which we have alluded by clergymen and ministers of every denomination is to be commended, albeit some of the remarks offered have been marred by sneers at the medical profession, which we feel to be undeserved, and therefore discreditable. It remains to hope that others will find in the few telling sentences left upon record by Dr. Fox an occasion for equally wise and generous comment. For ourselves and the profession as a body we claim to be considered as having neither part nor interest in the speculations of men who mistake a spirit of sententious skepticism for scientific zeal and acumen; and who, by the restless energy of their enterprise against religion, and their unwearied anxiety to deprive man of his hope beyond the present, are unwilling witnesses to the truth they assail, the unconscious contributors of a living testimony to a faith they despise. Such short-sighted laborers in the field of science, blind to all that lies around and outside the circle of a narrow vision, may be good and true workers within the limits of their enterprise, but they err egregiously in closing their eyes to every thing beyond.

An Alleged Cure for Rattlesnake-bite.—Myron G. Collins, of Tennessee, claims to have discovered a cure for rattlesnake-bites. Drs. Eve and Shacklett, of Nashville, according to the American, made a test of the medicine. Collins let a rattlesnake bite him on the wrist, and at once applied to the wound and took inwardly a decoction of mosses from oak and hickory trees. He suffered from nausea, and his pulse and temperature were excited, but within an hour he had completely recovered. The bite of the same reptile speedily killed a dog.

How we Catch Cold.—This pertinent question is just now engaging attention. There is another question which should be answered first; namely, What is *cold?* The old idea of a "chill" is perhaps nearer the truth than the modern notion of a "cold." The hypothesis would seem to be that a "cold" is something more than a cold because, it is said, "You do not catch cold unless you are cold." The fact is, there are probably as many diverse occurrences grouped and confounded under the generic title of cold-catching as diseases covered by that popular term fever, which is made to comprise every state in which the pulse is quickened and the temperature raised. By a parallel process of reasoning "cold" ought to be limited to cases in which the phenomena are those of a "chill." When a person "catches cold," either of several morbid accidents may occur: 1. He may have such a chill of the surface as shall drive the blood in on the internal organs and hamper some weak or disorder and influence some diseased viscus; 2. The cold may so impinge on the superficial nerves that serious disturbance of the system may ensue and a morbid state be set up; 3. The current of air which causes the cold may in fact be laden with the propagating "germs" of disease; or, 4. The vitality of the organism as a whole or of some one or more of its parts may be so depressed by a sudden abstraction of heat that recovery may be impossible or a severe and mischievous reaction ensue. The philosophy of prevention is obviously to preserve the natural and healthy action of the organism as a whole, and of the surface in particular, while habituating the skin to bear severe alternations of temperature by judicious exposure, and natural stimulation by pure air and clean water, and orderly habits of hygiene and health.—*London Lancet.*

Bleaching sponges without injuring the texture may be done very nicely by first soaking them in a solution of muriatic acid made by adding a pint of acid to a gallon of water. This dissolves out the limestone, shells, etc. After this rinse thoroughly, and immerse the sponges in a solution of permanganate of potassa containing an ounce of the latter to a gallon of water. Wring out the sponges, and put them into a solution made from one pound of hyposulphite of soda, one gallon of water, and one ounce of muriatic acid. This will bleach immediately, after which they should be well washed with water to remove all traces of acid, etc.

Selections.

TREATMENT OF THE NIGHT-SWEATING OF PHTHISIS.

William Murrell, M. D., M. R. C. P., Lecturer on Practical Physiology at the Westminster Hospital, Assistant Physician to the Royal Hospital for Diseases of the Chest, in London Practitioner:

Sweating occurs in phthisis from two causes—weakness and fall of temperature. When the sweating is due to weakness it may occur at any time, day or night, and is excited by apparently trivial causes. The sweating from fever usually occurs at about three or four in the morning, when the temperature is lowest. These two varieties of sweating may and often do coexist. The greater the weakness of the patient and the greater the diurnal range of temperature the more profuse the sweating. By checking the sweating the strength of the patient is economized, by preventing, as Dr. Fothergill suggests, the loss of the large quantities of salts which escape with the sweat.

1. Oxide of Zinc in Night-sweat.—Probably no remedy has been more extensively employed in the treatment of the night-sweating of phthisis than oxide of zinc. The estimation in which it is held will be gathered from the following extract from Williams's work on Consumption: "The medicine we have found to act almost as a specific on night-sweats is the oxide of zinc in doses of two or three grains in the form of a pill at night. This we have given ourselves and seen others give to thousands of patients, and the good results have generally been so prompt and lasting that in few cases has it been necessary to continue it for any lengthened period."

Oxide of zinc has been so long in use that the origin of the treatment is almost lost in obscurity. It appears that as far back as 1837 Dr. Busse, of Berlin, recorded the case of a gentleman who, after taking a scruple of the oxide daily for some months for epilepsy, became cold and shriveled and his skin like parchment; but this observation attracted but little attention. Some years later the property of drying the skin was noticed by the late Dr. Robert Dickson, of the Hospital for Consumption at Brompton, in some patients to whom he administered it as a general tonic and for diarrhea, and this led him to give it with a view of checking nocturnal perspirations. Mr. Vertue Edwards, the well-known resident officer at the Brompton Hospital, gave the new remedy an extensive trial in some patients under the care of Dr. John Hutchinson, of spirometer fame, who had temporary charge of the wards. The treatment was then adopted by the late Dr. Theophilus Thompson, who, in a lecture delivered in the spring of 1851, says, "No remedy which I have as yet employed has exercised so uniformly favorable an effect in moderating the perspirations." But he adds, "The preparations of zinc occasionally fail to accomplish the object, and in some instances after succeeding for a time lose their power." Many papers have since been published confirming these facts, but they have thrown no additional light on the subject.

The oxide of zinc is usually given at bed-time in from five- to ten-grain doses made up into pill with extract of henbane or conium. The hyoscyamus is said to prevent sickness, and probably exercises an influence allied to that of its more powerful congener, belladonna. The oxide is sometimes given in powder, but in this form is not unlikely to upset the

stomach. It must be admitted that even in large doses it not unfrequently fails; some writers say in nearly a third of the cases. I have used it very frequently, but have no notes available for statistical purposes. It is said to check other forms of pathological sweating, as in intermittent fever and acute rheumatism, for example. Sulphate of zinc in two-grain doses will often check the sweating of phthisis, but it has no advantage over the oxide, and is seldom used for this purpose. How the zinc salts act in these cases is not well understood, and our knowledge may be summed up in the vague statement that they are "astringents."

II. Atropia in Night-sweat.—Dr. Milner Fothergill, in an interesting article recently published in the Practitioner, says: "The most potent of all anhydrotics in my experience is unquestionably belladonna. We are indebted to Dr. Sidney Ringer for our knowledge of this property of belladonna, and the debt we owe him can only be sufficiently estimated by those who have an extensive experience of phthisis, and who give the drug a fair trial. I have no hesitation in saying that the use of this agent completely changes the aspect of many cases of pulmonary phthisis. For the arrest of the exhausting night-perspirations of phthisis belladonna is as potent as digitalis is in giving tone to a feeble heart." Dr. Ringer was led to try the influence of belladonna on sweating from the remarkable power it exhibits of checking the secretion of milk when applied to the breast. Soon after the publication of his papers I made at his suggestion some observations with the view of testing the value of hypodermic injections of small quantities of atropia in checking the sweating of phthisis. The drug employed was the sulphate, the dose from $\frac{1}{200}$ to $\frac{1}{100}$ grain. The conclusions were arrived at as the result of experiments made on sixty patients, who were seen at least twice a day, morning and evening.

Age, sex, and temperament in no way influenced the results obtained; the injections were successful in men and women, in young and old.

The presence or absence of fever did not influence the result. In nearly all the cases there was some elevation of temperature; in some it was but little above the normal, while in others it ranged from 102° to 103° F., or even higher.

The beneficial effects of the treatment are not confined to any particular stage of the disease.

The presence or absence of debility does not affect the result; in some cases the patients were in bed, suffering from great prostration, while in others they were well enough to be out of doors the greater part of the day.

The fact of the perspiration having or not having commenced at the time of the injection is of no importance. In a case in which the patient was perspiring very profusely over the whole body an injection was given; in five minutes the perspiration was very much less, and at the end of half an hour his skin was quite dry.

The benefit derived from the injection lasts in most cases for several nights, so that it need not be repeated every day. An injection once a week or once in ten days will often suffice to keep the perspiration in check.

In many cases the effect of the drug is delayed, no benefit being experienced on the first night; but on the second and succeeding nights the sweating is completely checked. The beneficial effects of the drug, when lasting several nights, appear to pass off gradually, the perspiration coming on earlier and earlier every night. Thus it was noticed that $\frac{1}{100}$ grain given at bed-time would often produce no effect that night; on the next night, no further injection being given, the perspiration would be completely stopped; on the third night the patient would be free from perspiration till five or six in the morning; on the fourth night it would begin at two or three in the morning; while on the fifth and subsequent nights it would be as bad as ever.

It is not essential to give the injection at bed-time; in fact, in some cases when the action of the drug is required on any particular night, the earlier in the day it is given the more likely it is to prove successful. Sometimes too when the drug is given at bed-time partial relief is obtained on that night, while on the second and subsequent nights the full effects of the drug are experienced.

The injection of atropia has been used with success where oxide of zinc, gallic acid, and other drugs have been tried in vain. The $\frac{1}{100}$ grain will often succeed where $\frac{1}{200}$ grain has failed. One injection may completely stop the perspiration; and although the patient remains under observation for some weeks, there is no complaint of its return. These cases are not common, but it not unfrequently happens that after a few injections the perspiration, although not completely stopped, is checked to such an extent as to render further treatment unnecessary. An injection of atropia will often relieve cough when in excess of the amount of expectoration, and thus enable the patient to obtain a good night's rest; but it is not only in this way that the perspiration is checked, for night-sweats are benefited when there is not much cough and the patient sleeps well. Patients rarely complain of any unpleasant symptom even when the larger dose is given. Dryness of the throat is a condition so common in sufferers from phthisis that any increase in this symptom, unless very marked, will pass almost unnoticed.

The number of cases in which marked and permanent benefit is not derived even from these small doses does not amount to more than eight or ten per cent. The observations having been made for experimental purposes, the drug was given hypodermically; but in practice it would be found more convenient to give it by mouth in a proportionately larger dose. It may be given in pill, or in solution, or in granules. It is stated by Dr. Aquilla Smith that a solution of sulphate of atropia in camphor-water (made with distilled water) will not spoil by long keeping. As to the dose, Dr. Fothergill usually commences with $\frac{1}{75}$ grain by mouth, and increases it to $\frac{1}{25}$ grain. Speaking from a large experience of the drug, he finds that it may be freely used without apprehension as to any serious toxic effects appearing. "Even with $\frac{1}{25}$ grain of atropine the patients," he says, "do not complain much; some dryness of the throat and a little indistinctness of vision being all; while all prefer these to their dreaded sweats. These effects wear off in a day or two after the drug is discontinued or even the dose reduced. I have not yet seen any alarming symptoms produced. This I attribute to the gradual increase of the dose; and I have but little doubt that if $\frac{1}{25}$ grain were given at first many cases would show marked toxic symptoms." Dr. J. M. Williamson mentions a case in which the eightieth of a grain given by mouth produced severe symptoms of poisoning. M. Valpian employs granules each containing half a milligram (about $\frac{1}{130}$ grain).

Atropia will stop other forms of sweating, such as the sweating of acute rheumatism, prolonged suppuration, convalescence, etc. Atropia and belladonna check sweating by a peripheric action on the sweat-glands, but it is not unlikely that they have also a direct central action.

III. Gallic Acid in Night-sweat.—Gallic acid is a useful remedy for night-sweating. It is especially indicated when the patient also suffers from slight but frequently recurring hemoptysis or from diarrhea. It is best given in a ten- or fifteen-grain dose either at bed-time or three times a day. It is often made into pills with extract of hyoscyamus, the henbane in all probability exerting its own specific influence.

IV. Quinine in Night-sweat.—Quinine is another useful remedy. It proves of most avail when there is a considerable rise of temperature at some period of the day. It is frequently given in two-grain doses, but five grains are much more likely to succeed. A large dose (eight or ten grains) administered at once or in portions repeated hourly is a good form. A night-draught composed of quinine, sulphate of zinc, and sulphuric acid is also useful (Ringer). It has been suggested that quinine checks profuse perspiration by depressing the vaso-motor dilating nerves, and so contracting the blood-vessels. This explanation is probably incorrect.

V. Iron in Night-sweat.—The different preparations of iron have long been used in the treatment of pathological sweating. Sir Thomas Watson says: "I have frequently succeeded in checking the wasting sweats of phthisis by the tincture of perchloride of iron, given in doses of twenty minims thrice a day, after other expedients had failed me. Steel-wine, the ammonio-citrate of iron, the syrup of its iodide, are all good and eligible forms." Reduced iron made up into five-grain pills often succeeds admirably. In a case recently under observation it stopped the sweating after Dover's powder and oxide of zinc had failed. The patient—a young man—had softening at both apices, and had suffered from profuse night-sweats for six or seven weeks. He took Dover's powder nightly for five weeks, the dose being gradually increased from one to fifteen grains without any improvement. During the next three weeks he took ten grains of oxide of zinc every night at bed-time, with very little benefit. He was then ordered two five-grains reduced iron pills nightly, and in a week the sweating had almost ceased. The great disadvantage of iron is that in many cases it is not well borne. Too often it increases the cough, occasions headache and heat of skin, and distresses instead of relieving the patient.

VI. Nitrite of Amyl in Night-sweat.—I have recently made, at Dr. Ringer's suggestion, some observations on the influence of nitrite of amyl on the night-sweating of phthisis. The patients were seventeen in number, all adults—thirteen men and four women. All stages of the disease were represented; in some cases there was considerable elevation of temperature, while in others the lung mischief was latent. The majority of the patients were seen daily for some weeks, and some were under observation for three months. The medicine was given internally at bed-time, the dose varying from a half to three minims. For convenience of dispensing, a one-in-ten solution in rectified spirit was usually employed, but in some cases the amyl was given in suspension in water or on sugar.

In three out of the seventeen cases no benefit was experienced from the treatment. These patients were all men. One had suffered from profuse perspiration all his life, not only at night, but also in the day-time, and he was covered with moisture on the slightest exertion even in the dead of winter. The amyl was given nightly in minim doses for a fortnight without checking the perspiration in the slightest degree. He had previously been treated unsuccessfully with oxide of zinc, hypodermic injections of atropia, and other drugs. On one occasion he was freely rubbed all over with belladonna liniment till his pupils were fully dilated, but the sweating continued as before. The second was a case of advanced phthisis, in which the amyl was given nightly for a fortnight in doses varying from one to three minims, without benefit; oxide of zinc subsequently failed. In the third unsuccessful case the patient had hemiplegia and tertiary syphilis, in addition to his lung mischief. The amyl was taken in drop-doses for eight nights, and seemed rather to increase than to diminish the amount of perspiration; in this case too oxide of zinc was given without benefit.

In the remaining fourteen cases the treatment was successful. The most striking case was that of a young man who had suffered severely from night-sweating for six weeks. A single dose of the amyl stopped them at once and completely for a fortnight. The perspirations then returned, and a single dose again kept them in check for a fortnight. For a third time this was tried, and with like result. It may have been a mere coincidence, but it certainly appeared to be the result of the treatment. In the majority of cases the treatment was less successful. Usually on the first night little or no benefit was experienced; on the next night the perspiration was less; and it gradually decreased in severity night by night till at the expiration of a fortnight it had nearly if not wholly ceased, and the patient was able to discontinue the medicine. At the expiration of about a week the perspiration would return, and it would be necessary to give the medicine again. One of these patients had renal disease in addition to the lung mischief, and another had frequent hemoptysis. The others were simple cases of phthisis. Most of them were able to take outdoor exercise, but two or three were confined to bed.

Nitrite of amyl is a good remedy for night-sweats, but for promptness of action is decidedly inferior to atropia and other remedies.

VII. Local Applications for Night-sweat.—Dr. Druitt finds that in the night-sweats of phthisis sponging with hot water gives relief, especially if the perspiration begin, as it often does, on one special part of the body by preference, as the chest, hands, or feet. By hot water is meant water as hot as can be borne without pain. It may be used by sponging or immersing, and must be continued till the parts treated are hot, red, and tingling with heat—almost scalded, in fact. A good wipe with water at 130° is easily borne; for immersion the heat must be less; but the feelings are the only guide. Dr. Druitt also recommends this mode of treatment when there is a general tendency to perspire to a distressing degree in hot weather, the patient being in good health; and also when there is a tendency to distressing perspiration of some particular part, as the axillæ, hands, feet, etc.

Dr. Robinson Hill recommends sponging the chest with salt solution at bed-time. He finds that in many cases it arrests the night-sweats most completely and satisfactorily.

Sponging the chest and limbs at bed-time with

aromatic vinegar and water is also useful, but has its disadvantages. Dr. Elliotson speaks well of a mixture of sulphuric acid and water—a dram to the pint—as a wash.

The application of belladonna is useful for local sweatings, but when the sweating is general the internal administration of atropia is to be preferred.

Toad-stool Poisoning.—On Tuesday, September 18, 1878, a gentleman called at my office and introduced himself as Mr. W., of Chelsea. After a little conversation he said that he had been poisoned by toad-stools, became quite faint, and then stretched himself on my sofa. His face was very pale, almost a livid gray; its peculiar ashen shade was noticed by my wife from the opposite end of the hall. His story was that on Sunday evening he picked a quantity of white puff-balls and also *one* other mushroom. This was a white-gilled, yellowish-topped specimen. The top had warts or scurf on it, and the stem a bulbous base, which latter he cut off, and cooked the remainder. He stewed this and the puff-balls in milk, with the usual seasoning. There was no burning or strange taste to the mushroom, either raw or after cooking. The stew was eaten by a family of five persons, no two of whom were affected exactly alike. The youngest—a boy of eight years—took about a dozen tastes on Sunday night, and ate about the same as the father on Monday morning. Monday evening, twenty-four hours from first dose, his bowels were active; otherwise no ill effects were felt. The stew acted simply as a generous but mild cathartic. A daughter—a girl of eleven years—tasted a little on Sunday, and ate her portion for Monday's breakfast. She experienced during the forenoon a slight but very peculiar headache; also some diarrhea, and no other symptoms. Another daughter—a girl of thirteen years—tasted it on Sunday night, and ate about the average on Monday. From nine to three Monday she had a peculiar, throbbing, severe headache; no other sickness, no nausea, and no diarrhea. The mother scarcely tasted any on Sunday, but ate plentifully for breakfast on Monday. The milk left in which the fungus had been stewed—say two gills to a pint—Mrs. W. drank. In less than an hour it operated as a Seidlitz powder, producing the most violent diarrhea, and (she says) seemed to pass right through her. She had a bad-feeling head for five hours—not exactly a headache. Wednesday, a little of the same feeling in her head. Otherwise no ill effects. Mr. W. ate a piece of the stem *raw* on Sunday night, and did not eat quite so much stew as the rest of the family on Monday morning. He felt nothing from the poison until Tuesday morning at one o'clock, or the night prior to his call on me—say thirty hours after the first dose, seventeen hours after the full meal. He was taken with colics and violent purging, and went to stool some four or five times in quick succession. When he saw me he was feeling weak, nauseated, with no appetite, and was very pallid. He had occasional pains which, from his description, I thought similar to those of bilious colic. I asked him if either whisky or olive-oil was offensive to him when in health. On his answering "No," I gave him a tablespoonful of each mixed in one wine-glass, which he took. Before he left the office he said he was feeling much better. He called again on Thursday, and said that he was at that time all right. Tuesday afternoon he had had two or three attacks of the same kind of colic, but so slight that he did not think them worth notice. Wednesday morning, or forty-eight hours after the full meal, he had a peculiar and violent headache, which went off about ten in the forenoon, since which he had felt well. He thought the family would let toad-stools alone in the future. No remedial measures were used in either of the above instances, except the dose administered by the writer.—*J. A. Palmer, jr., in Bost. Med. and Surg. Jour.*

The Treatment of Hemorrhoids.—F. P. Atkinson, M. D., in London Practitioner:

A good deal has of late been written with respect to the operative treatment of hemorrhoids, and I think in this way attention has perhaps been diverted from the use of topical applications. Of course local treatment by itself is of little use, inasmuch as while the cause remains any benefit that may be obtained can only be partial and temporary. As far as I can see hemorrhoids are to be divided into three classes, viz. acute, subacute, and chronic, according to the symptoms and time that they have existed, and the treatment has to be adapted to the stage in which they are presented to our notice.

In the acute stage they are inflamed, of a dark red appearance, and give rise to a throbbing, burning pain, or like that which would be produced by the application of a red-hot coal. Mr. Biddle, a fellow-practitioner, tells me that in this stage the effect of calomel-dusting is something wonderful, and that relief is more quickly gained from this than any thing with which he is acquainted. He considers that it acts in a twofold manner, viz. upon the liver and at the same time as a local sedative. Sponging also with hot water gives a good deal of ease. If this treatment prove inefficient, and the pain be very excessive, leeches may be applied to the anus, or an incision made into the center of the swelling and the contents squeezed out.

In the subacute stage the feeling complained of is more that of weight and tension, though on going to stool the pain is often very acute. To relieve the existing condition, the compound gall ointment or a solution of acetate of lead and opium should be freely and frequently applied, and an enema of cold water used after each action of the bowels.

In the chronic stage the best application is the common pitch ointment. For this useful piece of knowledge I am indebted to a Mr. Corbett, and he, it appears, got the hint from an old nurse by seeing her apply some tarred rope. Its astringent effect is something remarkable, and I know of nothing which acts so quickly and effectually.

The general treatment has to be directed toward altering the particular mode of living which has brought about the abnormal condition. Hence all luxurious and sedentary habits, hard riding, venereal excesses, the use of aloetic purgatives, should be forbidden; while the object of the *medicinal treatment* should be to keep the bowels freely relieved and lessen as much as possible portal congestion. Dr. Young, of Florence, wrote a paper in the Practitioner of January, 1878, upon the use of glycerine internally in these cases, but I do not think that it has any specific action upon the hemorrhoids themselves. The improvement which he says takes place is, I fancy, in all probability simply due to an increased action of the bowels which it produces. Confection of senna is a particularly useful and by no means unpleasant aperient in these cases. I would, however, rather suggest the use of a euonymin pill occasionally at

night, with a dose of effervescing Carlsbad salts in the morning, as these have a direct effect upon the portal circulation. In conclusion, I would remark that I can not speak too strongly with regard to the effects of the pitch ointment, for I feel certain that the necessity for operative measures may often be prevented by its timely use, and I would recommend every one to give it a trial where the compound gall ointment is ineffectual.

Treatment of Tapeworm.—Dr. John Bartlett, in Chicago Medical Journal and Examiner:

The male fern in the form of ethereal extract sometimes does well. Dr. Groesbeck, who reports four successful cases with it, gives one dram of the imported extract at 9 A. M. and one at 10:30 A. M., in a cup of milk, on an empty stomach. Others have used it in this way with like success. My experience with this remedy is not so favorable. It seemed in some cases to act quite promptly and to expel the worm broken in many pieces, but in three such trials the worm re-formed.

Some give with success large doses—four and even six ounces of pumpkin-seed in emulsion. I have prescribed it several times in these doses with very little disturbance to the patient and with the effect of bringing the worm entire *except the head.* For delicate persons and for children it is the least hurtful of remedies, and it is as efficient as some more irritant articles. As a tentative means for determining whether tapeworm exists it is the best remedy. It can be made rather pleasant to the taste, and it is not irritant to the stomach. I give it in two doses two hours apart, followed in six hours by castor-oil and honey.

In conversation with physicians as well as patients I have found no remedy to be used with so much confidence as kousso. But whatever article is given care should be taken by the physician to thoroughly advise his patient how to take the medicine and how to antagonize sickness. Instructions should be most emphatically given to him to this effect: "It is idle for you to take this medicine without following my directions exactly. Remember when you have an operation to use a clean chamber, and after the evacuation note if the worm be passing; if so, do not attempt to pull it out, but lie down on the floor beside the vessel till another operation occurs; or if one does not occur take a large injection once, twice, three or four times, using, if you have it, doses of the worm-medicine with the water. If the worm does not pass send for me, letting it hang from you till I come. If circumstances render it necessary to remove the worm draw upon it slowly and steadily. If once it is started never stop the motion; this would give the head opportunity to renew its hold. Keep pulling till the very fine neck appears, and then repeat the injection; and while the bowel is full of water, and if possible at the instant when its contents are discharged, draw again upon the worm, when it quite often will be washed out entire. Don't forget, while you are waiting with the worm protruding, to place something upon it, as the cover of the chamber; otherwise it may go back. When the worm is evacuated make certain that no one empties the chamber before I come. Do not, out of idle curiosity, lift the worm up with a stick or stir it; you may in this way break off and lose the head."

The better plan in the treatment of any case is to choose some day on which one expects to be comparatively at leisure, and to call often to note how the patient gets on.

It is commonly taught that it is better to give a purgative the night before the vermifuge is taken. I have often followed this practice, but I have discontinued it except in cases where constipation exists. The object in giving this preliminary purgative was to empty the bowels, so that the vermifuge might come more directly in contact with the worm; and also to render the intestines more sensitive to the cathartic action of the medicine. Experience has caused me to believe that the evacuation of the bowels does not render the worm more exposed to medication. On the contrary the feces in the normal condition being virtually insoluble in the medicines given, do not dilute them, and by occupying space in the bowels they actually leave less opportunity for the worm to escape the poison intended for it. Again, if the bowels be irritated overmuch by the preliminary purgative, the vermifuge acts so promptly in some cases that it seems to pass from the intestines before the worm has been exposed to it sufficiently long to secure its destruction.

When the action of the remedy is most satisfactory the parasite comes *en masse*, in such volume as to cause the patient to be aware of something unusually large passing. Invariably the worm has been so tied into knots that I have not had the patience to disentangle it.

It sometimes occurs that in the *dernier ressort* of delivering the worm by force, when it has been advancing in a promising way, it suddenly ceases to pay out, leaving the sensation of a decided and rude obstruction. In some of these cases I am satisfied that the mass of the worm in a knotted condition has been pulled down against the sphincter and is there arrested. It might be brought out by an injection; but that failing I would introduce the finger with the hope of encountering the mass and with a purpose of turning it out, as one removes a placenta from the womb after abortion.

Sometimes when attempting to withdraw a worm it seems that part of the resistance is due to the clamping of the anus on the body of the parasite. In such a case the sphincter might be distended to advantage with a suitable instrument, as a pair of bullet forceps.

When the worm is passed, if there is reason to believe that any medicine remains in the stomach—if, for instance, we have within the past two hours given a dose, and if the patient be distressed by it, as by nausea, colic, oppression of the head, etc.—we should cause vomiting by simple means, as by draughts of warm water, titillation of fauces, etc., with a view of shortening the distress of the patient.

The detection of the head, if it be yet upon the worm, is seldom difficult. Generally it may be recognized in one minute by holding the worm in the hand after washing in clean water, and this by tracing down the fine neck till the head is reached. Occasionally, on account of its resting in a fold of larger portions of the worm, the head has escaped observation for some minutes. It is better where difficulty is experienced to place the parasite on a marble slab or large dish, and proceed regularly to go from one end to the other, looking all over both surfaces of every segment, lest the head may have been detached by violence and still remain adherent to some portion of the body. In case the worm is broken into pieces there is no way to find the head but by straining the entire contents of the chamber through a coarse cloth. This is a most unsatisfactory plan, as there exist in the discharges numbers of objects which to a provoking degree resemble either the neck or head.